

## Claims

- [c1] A method for a complete residential building inspection comprising the steps of:
  - conducting an infrared scan of said residential building;
  - conducting a visual inspection of said residential building; and
  - conducting an acoustic scan for wood destroying insects of said residential building.
- [c2] The method of claim 1 wherein said complete residential inspection is completed in less than two hours for a residential building of up to 2,000 sq. ft.
- [c3] The method of claim 1 wherein said complete residential inspection is completed in less than four hours for a residential building of up to 4,000 sq. ft.
- [c4] A method to nondestructively inspect residential building components for a designated entity, the residential building having an inside and an outside, comprising the steps of:
  - creating a temperature differential of greater than 10° F between the inside and the outside of said residential building;

turning on substantially all light switches and substantially all exhaust blowers in said residential building; obtaining temperature profiles of the exterior residential building components selected from the group consisting of wall, eave, and fascia; assessing at least one of said temperature profiles to detect a thermal anomaly indicative of a problem with said residential building components; and reporting said problem to said designated entity.

- [c5] The method of claim 4 further comprising: obtaining temperature profiles of the interior surface of a pitched roof, prior to assessing at least one of said temperature profiles.
- [c6] The method of claim 4 further comprising: obtaining temperature profiles of interior residential building components, prior to assessing at least one of said temperature profiles.
- [c7] The method of claim 4 further comprising: creating sufficient air flow in a basement to facilitate evaporation and obtaining temperature profiles of a basement wall, prior to assessing at least one of said temperature profiles.
- [c8] The method of claim 4 further comprising: obtaining

temperature profiles of each electrical circuit in a residential building, prior to assessing at least one of said temperature profiles.

- [c9] The method of claim 4 wherein said temperature profiles are captured by a thermal imaging camera affixed to the harness apparatus of claim 31.
- [c10] A method to rapidly inspect residential building components for a designated entity comprising:
  - creating a temperature differential of greater than 10°F between the inside and the outside of said residential building;
  - turning on substantially all light switches and substantially all exhaust blowers in said residential building;
  - obtaining temperature profiles of the exterior residential building components selected from the group consisting of wall, eave and fascia;
  - obtaining temperature profiles of the interior surface of a pitched roof;
  - obtaining temperature profiles of the interior residential building components;
  - obtaining temperature profiles of each electrical circuit in a residential building;
  - assessing each of said temperature profiles to detect a thermal anomaly indicative of a problem with said residential building components; and

reporting a problem to said designated entity; wherein the time between creating a temperature differential of greater than 10° F between the inside and the outside of said residential building.

- [c11] The method of claim 10 further comprising: creating sufficient air flow in a basement to facilitate evaporation; and obtaining temperature profiles of a basement wall prior to assessing each of said temperature profiles.
- [c12] A method to inspect interior building components of a residential building having an inside and an outside comprising:
  - creating a temperature differential of greater than 10°F between the inside and the outside of said residential building;
  - obtaining temperature profiles of said interior building components; and
  - assessing each of said temperature profiles for a thermal anomaly.
- [c13] The method of claim 12 wherein said interior building components are selected from the group consisting of wall and ceiling and said thermal anomaly is indicative of an uninsulated interior building component.
- [c14] The method of claim 12 wherein one of said interior

building components is a plumbing fixture and said thermal anomaly is indicative of moisture.

- [c15] The method of claim 12 wherein one of said interior building components is an air duct and said thermal anomaly is indicative of moisture in said air duct.
- [c16] The method of claim 12 wherein said interior building components is selected from the group consisting of a wall and a ceiling and said thermal anomaly is indicative of damage to insulation by small animals.
- [c17] The method of claim 12 wherein said interior building components are selected from the group consisting of a wall and a ceiling and said thermal anomaly is indicative of misaligned structural member.
- [c18] The method of claim 12 wherein said interior building components are selected from the group consisting of a wall and a ceiling and said thermal anomaly is indicative of wood destroying insects.
- [c19] The method of claim 12 wherein one of said interior building components is an air duct and said thermal anomaly is indicative of air leaking out of said air duct.
- [c20] The method of claim 12 wherein one of said interior building components is a ceiling and said thermal

anomaly is indicative of condensation.

- [c21] The method of claim 12 wherein said temperature profiles are recorded on a digital recording device.
- [c22] A method to locate the source of mold growth in a residential building having an inside and an outside comprise the steps of:
  - creating a temperature differential of greater than 10° F between the inside of a residential building;
  - obtaining temperature profiles of interior residential building components;
  - reviewing said temperature profiles for a thermal anomaly indicative of moisture; and
  - correlating moisture in said interior residential building with mold growth.
- [c23] The method of claim 22 wherein said temperature profiles are recorded on a digital recording device.
- [c24] A method to inspect a basement wall for cracks comprising:
  - creating sufficient air flow in the basement to facilitate evaporation;
  - obtaining temperature profiles of said basement wall; and
  - assessing each of said temperature profiles for a thermal

anomaly indicative of cracks in said basement wall.

- [c25] The method of claim 24 wherein said temperature profiles are recorded on a digital recording device.
- [c26] A method to detect a potential problem with an electrical circuit in a residential building comprising:
  - turning on substantially all light switches in said residential building;
  - turning on substantially all exhaust blowers in said residential building;
  - obtaining temperature profiles of substantially all electrical outlets in said residential building; and
  - assessing each of said temperature profiles for an anomaly indicative of an electrical problem.
- [c27] The method of claim 26 wherein said electrical problem is an overload of an electrical circuit.
- [c28] The method of claim 26 wherein said electrical problem is contact surface over heat.
- [c29] The method of claim 26 wherein said electrical problem is hot electrical wire within a wall.
- [c30] The method of claim 26 wherein said temperature profiles are recorded on a digital recording device.
- [c31] A harness apparatus for providing a stable hands free

platform for at least one residential inspection device comprising:

a first portion configured to support at least part of at least one residential inspection device; and

a second portion configured to receive the shoulder portions of a human torso, wherein said first portion and second portion form an enclosure of sufficient size to accommodate a human torso;

wherein said first portion and second portion are configured to form a platform for at least one residential inspection device.

- [c32] The harness apparatus of claim 31 wherein said at least one residential inspection device is a thermal imaging camera.
- [c33] The harness apparatus of claim 31 wherein said at least one residential inspection device is a means to transmit a digital image.
- [c34] The harness apparatus of claim 31 wherein said at least one residential inspection device is a video recording device.
- [c35] The harness apparatus of claim 31 wherein said at least one residential inspection device is a thermal imaging camera and a video recording device and said thermal

imaging camera is operably connected to said video recording device.

- [c36] The harness apparatus of claim 31 wherein said at least one residential inspection device is attached to said first portion.
- [c37] The harness apparatus of claim 31 wherein said at least one residential inspection device is attached to said second portion.
- [c38] The harness apparatus of claim 31 wherein said first portion includes a handle projecting generally downwardly.
- [c39] The harness apparatus of claim 31 wherein said second portion includes a plurality of handles projecting generally downwardly.
- [c40] The harness apparatus of claim 31 wherein said second portion is configured to support at least a part of a thermal imaging camera.
- [c41] The harness apparatus of claim 31 wherein said second portion is configured to support at least part of a video recording device.
- [c42] A method to inspect an exterior component of a residential building wherein said exterior residential building

component is selected from the group consisting of wall, eave and fascia, comprising the steps of:  
obtaining temperature profiles of the exterior residential building components; and  
assessing each of said temperature profiles for a thermal anomaly.

- [c43] The method of claim 42 wherein said thermal anomaly is indicative of moisture.
- [c44] The method of claim 42 wherein said thermal anomaly is indicative of structural deformation.
- [c45] The method of claim 42 wherein said thermal anomaly is indicative of insect infestation.
- [c46] The method of claim 42 wherein said temperature profiles are obtained after sunrise.
- [c47] The method of claim 42 wherein said temperature profiles are obtained after sunset.
- [c48] The method of claim 42 wherein said thermal anomaly is indicative of a structural deformation due to the past presence of moisture.
- [c49] The method of claim 42 wherein said temperature profiles are recorded on a digital recording device.

- [c50] A method to inspect the condition of a pitched roof of a residential building comprising:
  - obtaining temperature profiles of the interior surface of said pitched roof within three days of rain; and
  - assessing each of said temperature profiles for a thermal anomaly.
- [c51] The method of claim 50 wherein said thermal anomaly is indicative of moisture.
- [c52] The method of claim 50 wherein said thermal anomaly is indicative of structural deformation.
- [c53] The method of claim 50 wherein said temperature profiles are recorded on a digital recording device.
- [c54] A computerized method for facilitating inspection of a residential building comprising the steps of:
  - maintaining a database of temperature profiles for residential building components on a computer;
  - scanning said database for selected temperature profiles of residential building components; and
  - controlling a printing device to print a report showing selected temperature profiles of residential building components.
- [c55] The computerized method of claim 54 wherein said temperature profiles are input to said computer via wireless

transmission means.

- [c56] The computerized method of claim 54 wherein said temperature profiles are input to said computer via nonwireless transmission means.
- [c57] The computerized method of claim 54 wherein said selected temperature profiles are for a specific residential building.
- [c58] The methods of claim 54 wherein said selected temperature profiles are taken on different days.
- [c59] The computerized method of claim 47 wherein said temperature profiles are input to said computer via nonwireless transmission means.